

MOBILE CECUM SYNDROME MIMICKING IRRITABLE BOWEL  
SYNDROME – IS IT A FACT OR A MYTH?

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**SUMMARY:**

**Purpose:** Mobile cecum is due to an embryological anatomic variation of the colon ascending and or the cecum colon because of failure of right colon fusion with lateral peritoneum. This study was designed to evaluate the outcome of cecopexy as a treatment of patients with irritable bowel syndrome or of patients with intermittent abdominal complains of pain, colic, distension, constipation and/or diarrhea.

**Patients and Methods:** From 1994 to 2006, 101 patients (90 women and 11 men – median age, 37,6 – ranged 3 to 82) seen in private office had clinical diagnosis of mobile cecum; 81 patients(80,2%) had been seen as having irritable bowel syndrome. Twenty had others diseases: 5 (5%) of unspecific abdominal pain, 4(4%) of gynecological disorders, 3(3%) of inflammatory bowel disease, 2 (2%) of cholelithiasis, 2 (2%) of diverticular disease, and the 4 remainder (4%) because of appendicitis, megacolon, giardiasis, All patients of this series were programmed for cecopexy. Thirty refused the surgical treatment and are on clinical follow-up in private office.

**Results:** All operated patients (62/61,4%) with fixed cecum followed from 1 to 139 months (median, 21) are well. The non-operated patients (39/38,6%) followed from 1 to 128 months (median, 25) are with the same complains.

**Conclusion:** We recommend that all patients with diagnosis of irritable bowel syndrome or with obscure cause for intermittent right lower abdominal pain, distension, colic; constipation or diarrhea must be investigated as sick person probably with mobile cecum needing cecopexy.

**Key words:** mobile cecum syndrome, irritable bowel syndrome, intermittent abdominal complains, abdominal pain, colic, diarrhea, constipation, cecal volvulus.

## Introduction

Disturbances of gastrointestinal functions like as the secretory activity, visceral sensibility and motility, have been associated to changes in the brain-gut axis<sup>1,2</sup>. This implies the participation of the several one neurotransmitters as serotonin (5-hydroxytryptamine or 5-HT), acetylcholine, substance P, vasoactive intestinal peptide (VIP), and calcitonin gene-related peptide (CGRP)<sup>3</sup>. Between those, the serotonin has an important role in the motility and visceral hypersensitivity<sup>4</sup> and it has been noticeable as the primary agent in the mechanism of the symptoms development in irritable bowel syndrome (IBS)<sup>5-9</sup>.

In spite of new acquired knowledge on IBS pathophysiology, diagnosing and managing IBS can be challenging due to the lack of a marker for a diagnostic and an effective treatment option<sup>10,11</sup>. Besides this, IBS is a high prevalent disorder that significantly affects the work, the lifestyle and the social well-being<sup>12</sup>.

That disorder is underestimated, poorly acquaintance and quantified. Most IBS sufferers in USA and in the World are undiagnosed<sup>9,11</sup>. On the other hand, there are several individuals with symptoms of abdominal pain or discomfort – abdominal distension or bloating, and abdominal colic - with floating constipation or floating diarrhea, with medically diagnosed as having IBS, who not feel alleviated with available current clinical therapies for management of that syndrome.

The objective of this paper is to report on patients who were seen and unsuccessfully treated for IBS, but who were sufferers from mobile cecum syndrome (MCS) and have been surgically cured.

## **Patients and Method**

### Patients - Criteria of inclusion

All patients seen at two private offices (Gynecology & Obstetric and Proctology Clinic) fulfilling IBS diagnostic criteria (Manning, Rome I or II) or with clinical diagnosis of irritable bowel syndrome<sup>13,14</sup>, or individuals without a formal diagnosis but claiming of unknown abdominal pain, colic, constipation, diarrhea, or floating constipation and/or diarrhea, bloating, or with lower abdominal pain during sexual intercourse were included in this study.

From March 1994 to February 2006, 101 patients (90 women and 11 men aged from 3 to 82 years - mean 37,6 yr) most of them (81 patients/80,2%) registered as having IBS were clinically investigated for mobile cecum. Eighty-four patients (83 %) underwent a contrasted intestinal X-ray investigation (transit or enema) for topographic study of the cecum (identification of the mobile cecum). The transit was made with the following technique:

- 1) Patients were oriented to ingest 40 ml of a barium meal (infant patients 20 ml) at 8 a.m. without previous preparation or altering habitual feeding on the day of the exam, neither before nor after the ingestion of the contrast.
- 2) Abdominal radiography, including the lesser pelvis, was taken after 5 hours and 10 hours of the barium meal, in two positions:
  - a) Standing position and
  - b) Decubitus dorsal with head down and elevated feet on an inclination of 15 degree.

All radiographic images were analyzed by same physician that grade the cecum mobility according to its position on the pelvis as proposed by Padrón and Ania<sup>15</sup>, modified by Santos and col.<sup>16,17</sup>, in type I, II, III, and IV.

- I. The cecum in dorsal decubitus position is found in a normal anatomical situation being produced a clear descent of the same one in the standing position.
- II. The cecum decubitus position is found already under its normal anatomical situation but descends of evident way in the position biped.
- III. With the patient in upright position, the cecum is found in pelvic situation for which practically itself does not move in the dorsal decubitus position  
- The cecum in dorsal decubitus position is found in pelvic situation for which practically it does not move in the upright position
- IV. The cecum, in dorsal decubitus, is found in a situation up of its normal anatomic position being produced an evident descent with all the ascending and transverse colon for inside of the pelvis, in upright position.(fig.1 and 2)

In eight patients (10%) diagnoses were made by barium enema (fig. 3 and 4)

In seventeen patient (16,8%), diagnoses were clinically finished and, of these, 10 were operated confirming the mobile cecum (fig. 5).



Fig.1 Type IV up right position



Fig. 2 Type IV dorsal decubitus



Fig. 3 subhepatic cecum



Fig 4. medial cecum



Fig. 5 Exhibition of the colon through the Pfannenstiel incision

Independent of radiological gradation of the mobile cecum, all patients received the same surgical treatment.

Under general anesthesia patients underwent microlaparotomies; in children's patient it was made a small Davis' incision, in women or men an infra-umbilical transverse incisions (Pfannenstiel) was used for cecopexia. The cecocolopexia was done as described by Rogers<sup>18</sup>. Adults patient were discharged 24 hours after operation and children, 48 hours after.

## **Results**

Previously the mobile cecum syndrome diagnosis, 81 patients (80,2%) had been treated for irritable bowel syndrome, 5 (5%) for unspecific abdominal pain, 4(4%) of gynecological disorders, 3(3%) of inflammatory bowel disease, 2 (2%) of cholelithiasis, 2 (2%) of diverticular disease, and the 4 remainder (4%) because of appendicitis, megacolon, and giardiasis.

All female patients were questioned about abdominal pain during sexual intercourse. Twenty-five patients (27,8%) did not answer; 65 patients answered - 5 (7,7%) said "no", and 60(92,3%) answered "yes".

All patients of this series had 364 symptoms. The five most important of them were: pain, distension (or bloating), colic, constipation, and diarrhea - classified in first, second, third, and fourth place in accordance with patients' judgment. All patients had at least three of the five symptoms, 46 patients (45,5%) had four symptoms of the five most frequent (Table 1).

Ninety-four patients (93%) complained of distension (or bloating), 82(81%) of constipation, 75(74%) of colic, 59(58,4%) of pain, and 39 patients (38,6%) had diarrhea (Table 1 and 2).

All patients from this series reported relief of symptoms with defecation.

Surgical treatment was proposed: 71 patients (70,3%) were in agreement with operation: 62 (61,4%) were operated; 9 (8,7%) patients are waiting for opportunity operation, and 30 (29,72%) patients refused the surgical treatment.

Those operated patients 57 are women (91,9%) and 5 are men (8,1%), aged from 1 to 70 yrs (mean=36,5; sd=12,3); 52 patients (83,9%) had been cared for irritable bowel syndrome; 2 (3,2%) for unspecific abdominal pain, 2 (3,2%) for cholelithiasis, 2 giardiasis (3,2%), 2 others (3,4%) were clinically diagnosed as having inflammatory pelvic disease, 1 (1,6%) inflammatory pelvic disease, and other (1,7%) as having appendicitis (Table 2).

Among operated patients (57 female and 5 male), the preoperatively most frequent complain sorted by individual relevance were at first: pain (48,4%), abdominal distension (21%), colic (17,7%), constipation (9,7%), and diarrhea (3,2%); secondly, distension (58%), colic (19,4%), pain (9,7%), constipation (9,7%), and diarrhea (3,2%); thirdly, constipation (33,9%), diarrhea (25,8%), colic (21%) distension (12,9%), and pain (6,5%). Thirty six patients (58%) do not mentioned a forty symptom, however there were mention to constipation (24,2%), colic (9,7%), diarrhea (6,5%) and pain (1,6%) (Table 2 and 3).

All 57 operated women received a question about abdominal pain during sexual intercourse. Eleven patients did not reply. Forty six patients replied. Among them, 5 patients (10,8%) said “no”, and 41(89%) said “yes”.

Table 1. Symptoms in accordance with importance graded by the patients

Symptoms	First n(%)	Second n(%)	Third n(%)	Fourth n(%)	Number n(%)
Pain	40(39,6)	9(8,9)	6(5,9)	4(4)	59(58,4)
Distension	27(26,7)	56(55,5)	11(10,9)	-	94(93)
Colic	15(14,9)	22(21,8)	26(25,7)	12(11,9)	75(74,2)
Constipation	14(13,9)	11(10,9)	34(33,7)	23(22,8)	82(81)
Diarrhea	5(4,9)	3(2,9)	24(23,8)	7(6,9)	39(38,6)
none	-	-	-	55(54,4)	-
Total	101	101	101	101	364

Table 2. Demographic data, most frequent symptoms mentioned for patients in this series, and previous diagnosis with selection of operated patients

Demographic data			Complaints			Previous diagnosis	
Gender M:F	Age mean	Distension/Colic n(%)	Constipation/Pain n(%)	Diarrhea n(%)	IBS n(%)	Others n(%)	
AP n=101	11:90 37,6	94(93)/75(74,2)	82(81)/59(58,4)	39(38,6)	81(80)	20(19,8)	
OP n=62	5:57 36,5	56(90)/42(67,7)	48(77,4)/41(66)	24(38,7)	52(83,9)	10(16)	

AP = all patients; OP = operated patients; IBS = inflammatory bowel disease; M = male; F = female

Table 3 - Arranged symptoms in agreement with the relevance defined by the 62 operated patients

Symptoms	First n(%)	Second n(%)	Third n(%)	Fourth n(%)	Number n(%)
Pain	30(48,4)	6(9,7)	4(6,5)	1(1,6)	41(66)
Distension	13(21)	36(58)	8(12,9)	-	57(92)
Colic	11(17,7)	12(19,4)	13(21)	6(9,7)	42(67,7)
Constipation	6(9,7)	6(9,7)	21(33,9)	15(24,2)	48(77,4)
Diarrhea	2(3,2)	2(3,2)	16(25,8)	4(6,5)	24(38,7)
no	-	-	-	36(58%)	-
Total	62	62	62	62	211

### Postoperative follow-up

All the patients of this series are seen at clinic from April, 1994 to February, 2006 (1 to 142 months; mean of 22,3; sd=24,9). The operated patients were in follow-up for on average of 21 months (ranging from 1 to 139 months; sd=20,2). The patients on waiting and those that were refused surgical treatment are in follow-up for an average of 25 months (ranged from 3 to 128; sd=23,2). They have unaltered their health (Table 4).

Among the ones that were operated, 57 patients (91,9%) were considered with good health; five patient (8%) were only considered with regular health because they still complaint of the intestinal constipation (table 4.), but that gets better with use of calcium polycarbophil (1,3 gm twice on day) or with plantago ovata (30 gm twice on day)

Table 4. Data of follow-up for operated and non-operated patients

Operated					Non-operated				
data	n=62	X-ray	outcome	follow-up mean	data	n=39	X-ray	outcome	follow up mean
age mean	M:F	Y/N	G/R	m(var;sd)	age mean	M:F	Y/N	G/U	m(var;sd)
36,5	5:57	52/10	57/5	21(1-139;20)	38,3	6/36	30/7	0/39	25(4-128;23)

M=male; F=female; Y=yes; G=good; N= non; m= month; var=variance; sd=standard deviation U= unchanged

### Discussion

Functional gastrointestinal disorder (FGD) is a chronic or recurrent condition with various symptoms without a structural or biochemical cause known<sup>19</sup>.

It is not possible objectively to evidence any associated pathologic condition or any single biological marker that can identify patients with this common disease<sup>11</sup>, so much so that, in spite of high prevalence, there are very little knowledge about its pathophysiology. An important FDG is the irritable bowel syndrome (IBS) which is defined as abdominal discomfort or pain having at least two of following three features: relieved with defecation, onset associated with change in frequency of stool, onset associated with appearance of stool, with no inflammatory, or metabolic or structural abnormalities coupled. The diagnosis, just based on patients' report of symptoms, has been too considered as a diagnosis of exclusion<sup>11</sup>. Pretest probability for organic gastrointestinal disease in IBS patients does not differ from general population for colitis, colorectal cancer, gastrointestinal infection, thyroid dysfunction, and lactose malabsorption, but those does not occur with disorder due to sexual and physical abuse<sup>20,21</sup>, and psychological disturbances<sup>22</sup>. Routine blood tests, biochemistry and hormonal dosages have been referred without found an alternative biochemical marker.

However, when we have studied all our patients with IBS through contrasted intestinal transit looking for topographic alteration of the cecum we found that all they had varied degree of mobile cecum. Would this be a coincident fact? So, speaking about MCS we are in face of a new consideration on an old, common, and ordinarily misdiagnosed disease<sup>23,24</sup> mimicking IBS. Actually, of my insight that arises from this study, most of the patients, diagnosed as having IBS, do not suffer of IBS, but of the mobile cecum syndrome.

Tirol<sup>25</sup> has described an interesting relationship between mobile cecum and abdominal pain during the sexual intercourse that he named of "right sided dyspareunia", mentioning that the symptom could be present if there was, chronic or periodic cecocolic torsion. Recently, the author accentuated that the pain, chronic or intermittent, and the periodic abdominal discomfort, located in the right lower quadrant of the abdomen, as a clinic characteristic of the mobile cecum. Beyond this, he made comments in its high incidence and made a plea for more attention on significant frequency of that problem; its symptoms, and signs, as well as for its easy radiological diagnosis and surgical treatment. Finally, he asked the need of more medical attention to the mobile cecum syndrome<sup>23-26</sup>.

Our patients were selected among the ones that had symptoms of functional gastrointestinal disturbances of the which the main complaints were: intermittent abdominal pain not necessarily located in the right lower abdominal quadrant; colic, constipation, diarrhea, or constipation that was followed of diarrhea; or abdominal distention or bloating, and/or abdominal pain during sexual intercourse; most of them were seen and treated, or not, as having IBS.

They were seen by several gastroenterologists and underwent a multiplicity of exams as abdominal ultrasound, abdominal computer tomography, opaque enema,

colonoscopy, gynecological exams, and so on, almost always without the doctor had found any anomaly. Almost all our patients (81; 80,2%) were seen as having IBS because of their symptoms. So, they were managed with pinaverium bromide, or mebeverine hydrochloride, or cisapride, or tegaserod, or *plantago ovata*, or N-butylscopolamine bromide, associated or not to the clonazepam to assuage their chronic intermittent symptoms. However, when they were reported to us, new diagnose was done, the medical care was changed and the problem administration through surgical procedure solved the difficulty of the patients' health.

In most of the recent works registered in the medical literature, if not in all, where mobile cecum is reported, except those of Tiroi<sup>23-28</sup>, the authors just make mention to the associated aspects to the intestinal partial occlusion due to cecal bascule or intermittent partial torsion of that segment of the large bowel and/or the whole torsion that can culminate with intestinal obstruction of the right colon and necrosis of the cecum. In those cases, the proposed urgent surgical treatment, in general, finishes with the excision of part of the right colon.<sup>18,29-39</sup>

It has not been describing any relationship between mobile cecum and functional intestinal disorders, and especially with the irritable colon syndrome, as in this series, although Tiroi<sup>25</sup> has reported a relationship between dyspareunia and mobile cecum.

Our current observations have as primordial objective to establish a relationship among the congenital anomaly - old known, hardly recognized and misdiagnosed disease - with to the irritable bowel syndrome in the sense of calling the attention for the fact that the emphasis that it was given to irritable bowel syndrome needs to be revised. Certainly, most of patients that are registered as sufferers of the irritable bowel syndrome will be benefited by the cecopexia

So, we advise that all patients with IBS or with obscure symptoms of intermittent abdominal pain, colic, constipation, diarrhea or constipation and diarrhea; abdominal distension or bloating, and with or without abdominal pain during sexual intercourse should be investigated as sick person probably with mobile cecum needing cecopexy.

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